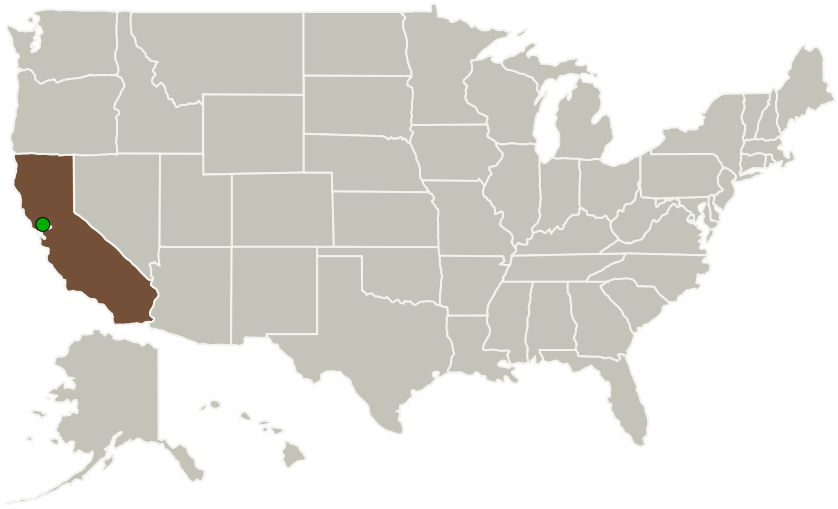
High Performance Forward Osmosis Membrane Element, Phase I

Completed Technology Project (2012 - 2012)

Project Introduction

Forward Osmosis (FO) is a promising technology for wastewater treatment applications. FO-based treatment does not require external pressure, can use lightweight components, and has low propensity to foul. Yet, the biggest obstacle to the use of FO processes is the low level of performance of the current commercial FO membranes. This project will use the novel high-flux and high-rejection FO membrane developed by Porifera, scaling up the membrane area, and incorporating it into a membrane module. The project will benchmark the membrane performance in the module, and deliver a module to NASA for further testing in NASA-specific applications.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
Porifera Inc.	Lead Organization	Industry Small Disadvantaged Business (SDB)	Hayward, California
Ames Research Center(ARC)	Supporting Organization	NASA Center	Moffett Field, California

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Primary U.S. Work Locations
California

Project Transitions

February 2012: Project Start

August 2012: Closed out

Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/138210)*

Organizational Responsibility

Responsible Mission Directorate:

Space Technology Mission Directorate (STMD)

Lead Organization:

Porifera Inc.

Responsible Program:

Small Business Innovation Research/Small Business Tech Transfer

Project Management

Program Director:

Jason L Kessler

Program Manager:

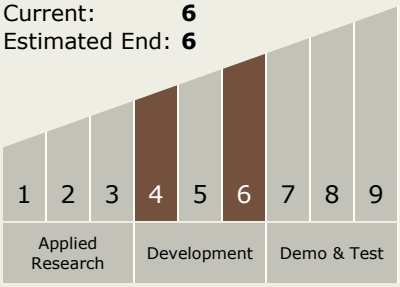
Carlos Torrez

Principal Investigator:

Aleksandr Noy

Technology Maturity (TRL)

Start: **4**
Current: **6**
Estimated End: **6**



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Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.1 Environmental Control & Life Support Systems (ECLSS) and Habitation Systems
    - TX06.1.2 Water Recovery and Management

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System